

### REMARKS/ARGUMENTS

Claims 1, 12, 28 and 33 have been amended and claims 35-37 have been newly added. Support can be found in the claims and the originally filed specification:

- Claim 1: page 35, lines 27-34;
- Claim 12: claim as previously presented;
- Claim 28: page 3, lines 6-11;
- Claims 35-36: page 29, lines 10-24; and
- Claim 37: page 29, lines 26-41.

No new matter has been added.

Applicant's representative thanks Examiners Hammer and Pyon for the helpful and courteous discussion held on 21 December 2010. As the Examiners will note, claim 1 has been amended so that the pH of the float is the pH during of the float during the contacting of the float with the leather. Further, a new claim 35 has been added which relates to adding an alkali metal compound to control the pH during the contacting. Further, it was agreed that novel dyes in view of cited references can distinguish methods of using such dyes from the references cited against the claims. *See* claim 34. Additional issues of the discussion will be expanded upon in the discussion that follows.

#### Related art rejections

1. The rejection of claims 1-7, 19-20, 24-26, 30 and 33 under 35 U.S.C. § 103(a) as being unpatentable over US 5,964,900 ("*Ruhlmann*") in view of DE 2 638 236 ("*Rosenbusch*") is respectfully traversed. The Office relies upon the English translation of *Rosenbusch*'s abstract only and there is no English translation of the text of *Rosenbusch* of record.

The teachings of the cited references are divergent. First, *Ruhlmann* relates to reactive dyes where the pH at dyeing is necessary to fix the dye to leather. *Rosenbusch* (the abstract thereof) discloses acidic and basic dyes in a common aqueous solution at a pH of at least 7.5, but there is no disclosure of reactive dyes in the *Rosenbusch* abstract. Further, the substrate to be dyed in these two cited references are different. The only substrate recited in the *Rosenbusch* abstract is leather, while the substrate dyed in *Ruhlmann* is, preferably, cellulose fibres (*e.g.* cotton, linen and hemp).<sup>1</sup> Thus, there is no motivation or suggestion that the teachings of the *Rosenbusch* abstract would relate or be applicable to the reactive dyes of *Ruhlmann*, and therefore there is no motivation to combine the cited references.

*Ruhlmann* does not explicitly state the pH of the float during the process of dyeing, but discloses adding a large amount of sodium hydroxide and/or sodium carbonate during the dyeing at the dyeing prescriptions at columns 14 and 15. This addition means that these dyeing conditions are strongly basic (alkaline), and therefore, the pH conditions for dyeing would exceed a pH of 11 as claimed. Accordingly, there is no disclosure in *Ruhlmann* of "-- wherein during said contacting said float has a pH of from 8.5 to 11, or during said contacting said float initially has a pH of from 3.5 to 7.4 which is then set to a value of from 8.5 to 11 to fix the dye--" See also claim 9. *Ruhlmann* also contains no disclosure of any pHs at the beginning of the dyeing processes, and therefore fails to disclose a pH of 3.5 to 7.4 as claimed. *Rosenbusch* (the abstract) does not remedy these deficiencies because it does not provide any teaching or motivation to lower the pH of *Ruhlmann* during the dyeing process to mildly alkaline conditions. Accordingly, the cited references fail to disclose this element of the present claims.

As noted above, *Ruhlmann* relates to dyeing of cellulose fibres in a highly alkaline environment. Alkaline conditions for dyeing are known to damage leather: "...under the

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<sup>1</sup> See column 1, lines 5-13 and column 10, lines 7-14 of *Ruhlmann*.

action of alkalis...[w]ith other leather varieties, the dyeing conditions described cause damage to the leather."<sup>2</sup> There is no motivation to modify the dyeing conditions of *Ruhlmann* based on the teachings of *Rosenbusch*, because one of ordinary skill in the art would recognize that the alkaline conditions of *Ruhlmann* would be unsuitable for the substrates of *Rosenbusch*. Accordingly, one skilled in the art would not be taught or motivated to dye leather under the highly alkaline conditions of *Ruhlmann* and therefore would not consider dyeing leather with the dyes as claimed at the pH range as claimed.

The cited references also fail to disclose dyeing processes where the dye fixation as claimed is achieved during a dye process carried out for at most 4 hours. *See* claim 28. Applicant has provided many examples of the claimed dyeing processes in the specification, where, in Dyeing prescription 1 on page 109, the dyeing took place for 60 minutes. As a result, the "leather obtained had a brilliant deep red color having excellent wash-, perspiration-, rub- and migrationfastness."<sup>3</sup> There is no disclosure or suggestion in the cited references of such results. Accordingly, Applicant has demonstrated results unforeseen by the cited references.

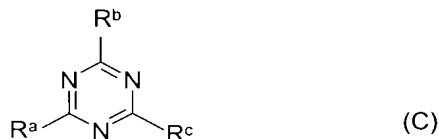
Last, both cited references fail to disclose the dyes recited in claim 34 (not included in the present rejection). According to MPEP § 2116, the "materials on which a process is carried out must be accorded weight in determining the patentability of a process." Most of the *Ruhlmann* dyes have 3 -N=N- groups in the dye molecular chain, while dyes such as the one represented by formula 101 in column 12 has one -N=N- group. Dyes of formula (V) as claimed can have 3 -N=N- groups, but this formula includes -NH- groups in the dye chain, where no such group is included in the *Ruhlmann* dyes. Dyes of formula (XIII) as claimed have one -N=N- group, but *Ruhlmann* fails to disclose the Pyr group of this formula.

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<sup>2</sup> Page 2, lines 11-19 of the specification.

<sup>3</sup> Page 110, lines 17-18 of the specification.

Further, formulae (V), (VI), (VIII), (IX), (X) and (XI) have Tr<sup>1</sup> and/or Tr<sup>2</sup> groups in the molecular chain, where these groups are triazine groups having a 1,3,5-triazine core. For example, see the compound represented by formula (C) on page 27 of the specification:



Since the dyes of claim 34 are novel in view of the cited references, claim 34 (among others) is distinguished from the cited reference for at least this reason. There is also no disclosure or suggestion in the cited references, individually or combined, of processes "-- further comprising reacting the at least one group represented by formula A of dye F with amino groups present on a surface of said leather to covalently bond said dye F to said leather--" (claim 36). Such claim is also fully distinguished from the cited references.

In view of the foregoing, *Ruhlmann* fails to disclose the pH conditions of the float during the claimed dyeing processes and *Rosenbusch* fails to remedy such deficiencies. Thus, the Office has failed to met the burden necessary for establishing a *prima facie* case of obviousness against the present claims.

Withdrawal of the rejection is respectfully requested.

2. The rejection of claims 9, 11-12, 20 and 27-29 under 35 U.S.C. § 103(a) as being unpatentable over *Ruhlmann*, *Rosenbusch*, and in further view of US 2004/0025260 ("*Fennen*") is respectfully traversed for the same reasons given above.

Further, as noted above, *Ruhlmann* discloses dyeing where dye fixation is carried out in strongly alkaline conditions. *Fennen*, on the other hand, teaches away from alkaline conditions during dyeing: "The properties of leather tanned with metal salts undergo negative

changes at pH values above 6-7."<sup>4</sup> *Fennen* also states that "leather tanned with metal salts shows insufficient stability" when made by "process[es] carried out at a pH value of 7-8 or more."<sup>5</sup> The teachings of these cited references are divergent and therefore there is no motivation to combine the references. There is also no motivation to modify the procedure of *Ruhlmann* in view of *Fennen*, because *Fennen* teaches away from dye fixation at alkaline conditions, which are the conditions for dye fixation in *Ruhlmann*.

The present claims are also distinguished from *Fennen* because this cited reference fails to disclose groups corresponding to group(s) represented by formula A of the present claims. Accordingly, the dyes of, in particular, claim 34 are novel in view of the cited references.

In addition, the pH conditions of *Fennen* relate to reactions where a dye is covalently bound to functional groups of a polyfunctional organic acid (in particular, a reaction between an amino group of a dye and an aldehyde—see [0051] of *Fennen*):

After the reaction of the leather with the ammonia or primary amine and a polyfunctional organic compound, a dye comprising functional groups which are capable of reacting with the functional groups of the polyfunctional organic compound, forming a covalent bond, is added to the reaction mixture. ... In process step c) the pH of the aqueous alkaline medium is preferably 7 to 10, especially preferably 7.5 to 9, and in particular preferably 8 to 9. ... If the pH value falls too far as a result of the use of ammonia in process step a2) or b2), the alkaline range is expediently adjusted by adding inorganic bases.

See [0046] of *Fennen*, emphasis added. There is no disclosure that the pH conditions would result in a vinyl sulfone group being bound to leather, especially because *Fennen* contains no disclosure of, *e.g.*, alkaline-detachable groups of groups corresponding to those of, *e.g.*, at least claims 7 and 32.

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<sup>4</sup> [0002] of *Fennen*.

<sup>5</sup> *Id.* at paragraph [0005].

In view of the foregoing, *Fennen* fails to remedy the deficiencies of *Ruhlmann* and *Rosenbusch* either individually or combined. Thus, the claims are fully distinguished from these cited references.

Withdrawal of the rejection is respectfully requested.

Obviousness-type double patenting rejection

The provisional rejection of Claims 1-7, 9, 11-12 and 19-20 under the judicially created doctrine of obviousness-type double patenting over claims 16-21, 23-29 and 31-40 of copending U.S. Application No. 11/628,659 (U.S. '659) is respectfully traversed. The above-identified claims of US '659 relate to processes of dyeing leather that are patentably distinct from the present invention as claimed. For example, the present claims relate to "--wherein during said contacting said float has a pH of from 8.5 to 11, or during said contacting said float initially has a pH of from 3.5 to 7.4 which is then set to a value of from 8.5 to 11 to fix the dye to said leather--" While Applicants traverse this rejection for the reasons noted, Applicants also request that the rejection be held in abeyance as per the guidance provided in the MPEP until definite claims are formed in this case, at which time the applicability of the Double patenting rejection can finally be assessed.

Moreover, Applicants note MPEP § 804(I)(B.)(1.), which states:

If a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer.

If "provisional" ODP rejections in two applications are the only rejections remaining in those applications, the examiner should withdraw the ODP rejection in the earlier filed application thereby permitting that application to issue without need of a terminal disclaimer.

Applicants note that U.S. '659 is the national stage application of international application PCT/EP05/006107, which was filed on June 7, 2005 and entered the national stage on December 6, 2006. In contrast, the present application has *an effective filing* date of October 28, 2004, which is the date on which the international application of the present application was filed. Thus, the present application is earlier filed application, and the rejection under obviousness-type double patenting should ultimately be withdrawn upon satisfying the requirements described in the MPEP, quoted above.

#### Other matters

1. The rejection of claims 1 and 9-10 under 35 USC § 112, 2<sup>nd</sup> paragraph as set forth in paragraph 3 at page 4 of the Office Action is, in part, respectfully traversed and moot in regard to claim 10.

Claim 9 was not included in the Office's discussion at the above-identified paragraph in the Office Action; thus it is unclear how this claim pertains to this rejection. **Claim 10 has been cancelled without prejudice.** Thus the rejection as it pertains to claim 10 is moot.

The Office considers that the claims are "incomplete for omitting essential steps, such omission amounting to a gap between steps." See page 4 of the Office Action.

The presently claimed invention(s) relate(s) especially to fixing reactive dyes as claimed to leather. Such fixing is accomplished, *e.g.*, by contacting leather with a float having (*inter alia*) dye(s) F having group(s) represented by formula A, where the float has a pH of 8.5 to 11. A person of ordinary skill in the art would be aware that additional steps can be taken in a dyeing process, such as washing, retanning, fatliquoring and aftertreatment, (see page 36, lines 21 to page 37, line 11 of the specification) depending on the particular application. Accordingly, numerous dyeing protocols are required and available to one of ordinary skill in the art wishing to dye various leather substrates with the claimed dyes. *See,*

*e.g.*, the examples beginning on page 109 of the present application. Further, the person of ordinary skill would understand how to integrate the claimed process into customary protocols for dyeing, especially because such protocols need only minor adjustments as discussed in the present application at, *e.g.*, page 35, line 36 to page 37, line 11. *See also* the working examples at page 109 to 151. However, the presently claimed invention pertains to dyeing leather where the claimed dyes are fixed to leather by contacting leather with dye(s) containing float(s) having the claimed pH. Thus, no essential step is omitted from the claim.

Further, additional steps have been included in various dependent claims. *See, e.g.*, claim 35, which relates to adding alkaline metal compounds to adjust the pH of the float during the contacting of the float with the leather. In addition, *see* claim 36, which relates to reacting group(s) represented by formula A with amino groups present on the leather.

Withdrawal of the rejection is respectfully requested.

2. The rejection of claims 1 and 31-34 under 35 USC § 112, 2<sup>nd</sup> paragraph as set forth in paragraph 4 at page 5 of the Office Action is respectfully traversed.

Regarding claim 1: Electron-attracting radicals X are defined in the specification at page 4, lines 6-12. *See also* claim 2, where a particular candidate for X is given. The alkaline detachable group Q is defined at page 4, lines 20-28 of the specification. *See also* claims 3, 7, and 30 (among others) where particular groups for Q are recited.

As noted above, material manipulated by a process must be given patentable weight. Accordingly, the claimed elements of claims 31-34 limit the claimed methods and do not need to be re-written in process step form.

Regarding claim 33: Without conceding previous claim 33 contradicted claim 1, this claim has been amended to recite "...wherein for the Dk<sup>1</sup> and Dk<sup>2</sup> moiety that is not a group

represented by formula A, such moiety is..." Thus, claim 33 is amended for clarity and does not contradict claim 1.

Regarding claim 34: 37 CFR § 1.75(c) states that claims "in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim." Since the dye formulae and the constituents thereof are defined in claim 1, which is incorporated by reference into claim 34, it is unnecessary to amend claim 34 to recite the representations of the constituents of the claimed dyes.

Withdrawal of the rejection is respectfully requested.

### Conclusion

Applicants respectfully submit that the above-identified application is in condition for allowance. Notification thereof is requested.

Respectfully submitted,

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